E

APPENDIX E

The Commonwealth of Massachusetts

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

September 29, 2000

D.T.E. 98-57-Phase III

Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in M.D.T.E. No. 17, filed with the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to become effective October 2, 2000.

APPEARANCES: Barbara Anne Sousa, Esq.
Bruce P. Beausejour, Esq.
Keefe B. Clemons, Esq.
Verizon Massachusetts
185 Franklin Street
Boston, MA 02110
Petitioner

Stephen H. August, Esq.
Keegan, Werlin & Pabian, LLP
21 Custom House Street
Boston, MA 02110
FOR: VERIZON MASSACHUSETTS

Thomas Reilly
Attorney General
By: Karlen J. Reed,
Assistant Attorney General
200 Portland Street, 4th Floor
Boston, MA 02114
Intervenor

Melinda Milberg, Esq.
AT&T Communications, Inc.
32 Avenue of the Americas, Room 2700
New York, NY 10013

-and-

Patricia Jacobs, Ph.D.
Julie Baerenrodt
AT&T Communications of New England, Inc.
99 Bedford Street
Boston, MA 02111

-and-

Jay E. Gruber, Esq.
Jeffrey F. Jones, Esq.
Kenneth W. Salinger, Esq.
Laurie Gill, Esq.
Palmer & Dodge, LLP
One Beacon Street
Boston, MA 02108
FOR: AT&T COMMUNICATIONS OF NEW ENGLAND, INC.
Intervenor

Stacey L. Parker, Esq.
AT&T Broadband
6 Campanelli Drive
Andover, MA 01810
Intervenor

Susan Jin Davis, Esq.
Antony Petrilla, Esq.
Covad Communications Company
Hamilton Square
600 14th Street, N.W., Suite 750
Washington, DC 20005
Intervenor

Kelly Kiser, Esq.
Digital Broadband Communications, Inc.
200 West Street
Waltham, MA 02451

-and-

E. Ashton Johnston, Esq.
Vincent Paladini, Esq.
Piper, Marbury, Rudnick & Wolfe, LLP
1200 19th Street, N.W.
Washington, DC 20036
FOR: DIGITAL BROADBAND COMMUNICATIONS, INC.
Intervenor

William J. Rooney, Esq.
General Counsel
Global NAPs, Inc.
10 Merrymount Road
Quincy, MA 02169
Intervenor

Michael D'Angelo, Esq.
NEXTLINK, 5th Floor
45 Eisenhower Drive
Paramus, NJ 07652
Intervenor

John Farley
Network Plus, Inc.
1 World Trade Center, Suite 8121
New York, NY 10048
Intervenor

Glenn A. Harris, Esq.
NorthPoint Communications
222 Sutter Street, 7th Floor
San Francisco, CA 94108
Intervenor

Kimberly A. Scardino, Esq.
Rhythms Links, Inc.
1625 Massachusetts Ave., N.W.
Washington, D.C. 20036

-and-

Jeffrey Blumenfeld, Esq.
Elise P.W. Kiely, Esq.
James R. Sheltema, Esq.
Helene J. Courard, Esq.
Blumenfeld & Cohen
1625 Massachusetts Ave., N.W.
Suite 300
Washington, DC 20036

-and-

Alan D. Mandl, Esq.
Mandl & Mandl, LLP
10 Post Office Square, 6th Floor
Boston, MA 02109
FOR: RHYTHMS LINKS, INC. (formerly ACI CORP.)
Intervenor

Douglas Denny-Brown, Esq.
RNK Inc.
1044 Central Street
Stoughton, MA 02072
Intervenor

Christopher Moore, Esq.
Sprint Communications Company, L.P.
1850 M Street, N.W., Suite 1110
Washington, DC 20036
Intervenor

Christopher McDonald, Esq.
Cynthia Carney Johnson, Esq.
WorldCom, Inc.
200 Park Avenue, 6th Floor
New York, NY 10166

-and-

Alan D. Mandl, Esq.
Mandl & Mandl, LLP
10 Post Office Square, 6th Floor
Boston, MA 02109

FOR: WORLDCOM, INC. (formerly MCI WORLDCOM, INC)
Intervenor

Thomas S. Lyle
Regulatory Affairs Manager
Vitts Network, Inc.
77 Sundial Avenue
Manchester, NH 03103

Interveror

Donald C. Davis
Vice President - Strategy and Industry Policy
Z-Tel Communications, Inc.
601 South Harbour Island Boulevard, Suite 220
Tampa, FL 33602

Interveror

Jonathan E. Canis, Esq.
Enrico C. Soriano, Esq.
Michael B. Hazzard, Esq.
Kelley, Drye & Warren LLP
1200 19th Street, N.W. Fifth Floor
Washington, D.C. 20036

FOR: INTERMEDIA COMMUNICATIONS, INC.
FOR: Z-TEL COMMUNICATIONS, INC.
Intervenors

Cameron F. Kerry, Esq.
Scott Samuels, Esq.
Mintz Levin Cohn Ferris Glovsky and Popeo, PC
One Financial Center
Boston, MA 02111

FOR: GLOBAL NAPS, INC.
FOR: CORECOMM MASSACHUSETTS, INC.
FOR: NEXTLINK MASSACHUSETTS, INC.
Intervenors

FOR: NET2000 COMMUNICATIONS, INC.
Limited Participant

Eric J. Krathwohl, Esq.
Rich, May, Bilodeau & Flaherty, P.C.
176 Federal Street, 6th Floor
Boston, MA 02110

FOR: ASSOCIATION OF COMMUNICATIONS ENTERPRISES (formerly TELECOMMUNICATIONS RESELLERS ASSOCIATION)
FOR: CTC COMMUNICATIONS CORP.
FOR: NETWORK PLUS, INC.
Intervenors

Russell M. Blau, Esq.
Eric Branfman, Esq.
Kevin Hawley, Esq.
Richard Rindler, Esq.
Swidler Berlin Shereff Friedman, LLP
3000 K Street, N.W., Suite 300
Washington, DC 20007

FOR: CHOICE ONE COMMUNICATIONS, INC.
FOR: CORECOMM MASSACHUSETTS, INC.
FOR: MGC COMMUNICATIONS, INC.
FOR: NORTHPOINT COMMUNICATIONS, INC.
FOR: RCN-BECOCOM, L.L.C.
FOR: VITTS NETWORKS, INC.
Intervenors
FOR: ADELPHIA BUSINESS SOLUTIONS OPERATIONS, INC.
Limited Participant

Scott Sawyer, Esq.
Conversent Communications of Massachusetts, LLC
222 Richmond Street
Suite 206
Providence, RI 02903
Limited Participant

J. Joseph Lydon
Beacon Strategies
11 Beacon Street, Suite 1030
Boston, MA 02108
Limited Participant

Donald S. Sussman
Director of Regulatory Affairs
Network Access Solutions Corporation
100 Carpenter Drive, Suite 206
Sterling, VA 20164

- and -

Rodney L. Joyce, Esq.
Shook, Hardy & Bacon, L.L.P.
600 14th Street, N.W.
Suite 800
Washington, D.C. 20005
FOR: NETWORK ACCESS SOLUTIONS CORPORATION
Limited Participant

TABLE OF CONTENTS

I. INTRODUCTION AND PROCEDURAL HISTORY

On May 5, 2000, Verizon New England, Inc. d/b/a Verizon Massachusetts ("Verizon"),[1] filed with the Department of Telecommunications and Energy ("Department") proposed revisions to its tariff M.D.T.E. No. 17 in compliance with both Department and Federal Communications Commission ("FCC") orders, with an effective date of June 4, 2000. These proposed revisions include Verizon's proposed digital subscriber line ("xDSL") and line sharing offerings and were made in response to the Department's March 24, 2000 Order in D.T.E. 98-57 (2000) ("Tariff No. 17 Order") and the FCC's Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket 96-98, FCC 99-355 (rel. Dec. 9, 1999) ("Line Sharing Order"). Verizon modified its May 5 compliance filing on June 14, 2000. The Department docketed this proposed tariff filing as D.T.E. 98-57-Phase III.

As noted by the FCC in its Line Sharing Order, both incumbent local exchange carriers ("ILECs") and competitive local exchange carriers ("CLECs") are beginning to provide xDSL-based services to customers in major markets nationwide. Line Sharing Order at ¶ 3. These xDSL-based services provide high-speed connections between subscribers and packet switched networks, over ordinary copper telephone loops. Id. According to the FCC, the

---

[1] Upon federal approval of the Bell Atlantic Corporation and GTE Corporation merger, the entity formerly known as New England Telephone and Telegraph Company d/b/a Bell Atlantic-Massachusetts, now operates in Massachusetts as Verizon New England, Inc. Although the tariff proposals that are the subject of this Order were filed before the merger approval, for convenience's sake, the Department will refer to the petitioner as Verizon.

economic realities of providing advanced services have also caused most xDSL providers to market primarily to large business customers. Id. The FCC's Line Sharing Order is intended to promote the availability of competitive broadband xDSL-based services, especially to residential and small business customers, by creating a new unbundled network element ("UNE") -- the high frequency portion of the local loop. Id. at ¶ 4. Voice services over copper use a lower frequency portion of the loop. Id. at ¶ 13 n.18.

The FCC states that making available this portion of the local loop for advanced services will enable CLECs to offer xDSL services through the same loop over which ILECs provide voiceband service. Id. The provision of xDSL-based service by a CLEC and voiceband service by an ILEC on the same loop is referred to as "line sharing." Id. Such access, the FCC notes, is "vital to the development of competition in the advanced services market, especially for residential and small business consumers," and that the policies set forth in Line Sharing Order "will ensure that American consumers will not face undue delay in receiving the benefits of technological innovation." Id. at ¶¶ 5-6.

Pursuant to notice duly issued, the Department indicated that all parties to D.T.E. 98-57, the Department's investigation into the propriety of the rates and charges set forth in M.D.T.E. Nos. 14 and 17, would be parties to Phase III of this proceeding, and requested comments about whether the Department should suspend, disallow, or permit Verizon's proposed tariff revisions to go into effect while pending the outcome of the Department's investigation. The Department received initial comments on May 17, 2000, from the Attorney General; AT&T Communications of New England, Inc. ("AT&T"); Choice One Communications of Massachusetts Inc. ("Choice One"); Covad Communications Company

("Covad"); the Massachusetts CLEC Alliance ("MA CLEC Alliance");[2] Rhythms Links, Inc. ("Rhythms"); and WorldCom, Inc. Rhythms and Verizon filed reply comments on May 24, 2000. Upon review and consideration of these comments, on May 25, 2000, the Department suspended Verizon's proposed tariff until September 18, 2000. At the request of the parties, the Department issued a second suspension Order on August 9, 2000, extending the tariff suspension to October 2, 2000.

On May 19, 2000, the following D.T.E. 98-57 limited participants were granted full intervenor status in the Phase III proceeding: Digital Broadband Communications, Inc. ("DBC"); Intermedia Communications, Inc.; Vitts; and Z-Tel Communications, Inc. Also on this date, Mpower's and Nextlink Massachusetts, Inc.'s petitions for intervention were granted. The Department granted limited participant status to Network Access Solutions Corporation on June 5, 2000, and to Adelphia on July 11, 2000.

On July 28, 2000, Department staff and Phase III parties conducted a site visit to Verizon's central office in Newton, Massachusetts, a remote terminal ("RT"), and a controlled environment vault. The Department held evidentiary hearings from August 1 to 3, 2000, with witnesses sponsored by Verizon, AT&T, Covad, DBC, and Rhythms. Verizon presented the testimony of David Kelly, Bruce Meacham, Augie Trinchese, Amy Stern, James Virga, and John White. AT&T presented the testimony of William Salvatore, and Covad presented the

---

[2] The Massachusetts CLEC Alliance consists of Adelphia Business Solutions Operations, Inc. ("Adelphia"); CoreComm Massachusetts, Inc.; MGC Communications, Inc. d/b/a Mpower Communications Corp. ("Mpower"); RCN Telecom Services of Massachusetts, Inc.; and Vitts Networks, Inc. ("Vitts") (MA CLEC Alliance Brief at 1 n.1).

testimony of Michael Clancy and Mike Zulevic. DBC presented the testimony of Terry Landers, and Rhythms presented the testimony of Robert Williams. In addition, Covad and Rhythms jointly presented the testimony of Patricia Kravtin and Joseph Riolo. The Attorney General, Verizon, AT&T, Covad, DBC, the MA CLEC Alliance, Rhythms, Sprint Communications Company L.P. ("Sprint"), Vitts, and WorldCom filed initial briefs on or before August 18, 2000. On September 1, 2000, the Association of Communications Enterprises ("ASCENT"), AT&T, Covad, DBC, the MA CLEC Alliance, Rhythms, Verizon, Vitts, and WorldCom filed reply briefs.

Line sharing issues similar to those at issue in Verizon's tariff filing were raised in a petition for arbitration filed by Covad on April 26, 2000, pursuant to § 252(b) of the Telecommunications Act of 1996 ("Act") (47 U.S.C. § 252(b)) and docketed as D.T.E. 00-46. Upon review of Verizon's tariff filing, it became apparent that the Department would be required to arbitrate and adjudicate separate proceedings covering similar, if not identical, subject matter at approximately the same time. This largely redundant exercise would not have been an efficient use of either the Department's or the affected parties' resources. Therefore, with the consent of Covad and Verizon, the Department agreed to address in Phase III whatever residual line sharing issues remained from Covad's petition.

II. STANDARD OF REVIEW

Section 251(c)(2) of the Act imposes a duty upon Verizon, as an ILEC:

> [T]o provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network -- (A) for the transmission and routing of telephone exchange service and exchange access; (B) at any technically feasible point within the carrier's network; (C) that is at least equal in quality to that provided by the local

> exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection; and (D) on rates, terms, and conditions that are just reasonable, and nondiscriminatory, in accordance with the terms and conditions of the agreement and the requirements of this section and section 252.

In addition, § 251(c)(3) of the Act imposes a duty on Verizon to provide UNEs on a nondiscriminatory basis. Specifically, this provision states that ILECs are required:

> [T]o provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this section and section 252. An incumbent local exchange carrier shall provide such unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service.

As noted in its Line Sharing Order, the FCC concluded in an earlier Order that the provision of access to operations support systems ("OSS") falls squarely within an ILEC's duty under § 251(c)(3) to provide UNEs under terms and conditions that are nondiscriminatory and just and reasonable. Line Sharing Order at ¶ 172, citing Local Competition First Report and Order.[3] In addition, the FCC states that as a general matter, the nondiscrimination obligation requires ILECs to provide to requesting carriers access to the high frequency portion of the loop that is equal to the access the ILEC provides to itself for retail xDSL service to its customers or its affiliates, in terms of quality, accuracy and timeliness. Id. at ¶ 173. The Line

---

[3] Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499 (1996) ("Local Competition First Report and Order") (further citations omitted).

Sharing Order is subject to further FCC modification.[4] At the appropriate time, the Department will direct Verizon to modify its tariff to conform to these FCC changes, if any.

The Act also requires ILECs, such as Verizon, to provide physical collocation on a nondiscriminatory basis. Section 251(c)(6) requires Verizon:

> [T]o provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements at the premises of the local exchange carrier, except that the carrier may provide for virtual collocation if the local exchange carrier demonstrates to the State commission that physical collocation is not practical for technical reasons or because of space limitations.

In addition, in § 251(d)(3), the Act does not "preclude the enforcement of any regulation, order, or policy of a State commission that--(A) establishes access and interconnection obligations of local exchange carriers; (B) is consistent with the requirements of this section; and (C) does not substantially prevent implementation of the requirements of this section and the purposes of this part."

The obligations imposed on an ILEC by the Act are typically referenced in relation to the terms and conditions contained in interconnection agreements, but these obligations apply equally to an ILEC seeking to fulfill its obligations, in part, under the Act by filing a tariff. Pursuant to G.L. c. 159, §§ 19 and 20, the Department must determine whether Verizon's proposed rates, terms, and conditions in its interconnection tariff are "just and reasonable." The right of a common carrier to make rules and regulations, subject to the approval of the

---

[4] The Line Sharing Order is the subject of an appeal before a federal district court. See United States Tel. Assoc. v. FCC, No. 00-1012 (D.C. Cir. Jan. 18, 2000).

Department and the requirement of reasonableness, has been long recognized. Wilkinson v. New England Telephone and Telegraph Company, 327 Mass. 132, 135 (1951).

III. PHASE III OPERATIONAL ISSUES

A. General Tariff Issues

1. xDSL Definitions

a. Introduction

Part B, Section 5.4.1.A of Verizon's proposed tariff defines an xDSL link as a loop providing transmission technology capable of supporting either asymmetrical DSL ("ADSL") or high-bit DSL ("HDSL"). According to Verizon's proposed definition, ADSL is a transmission technology that uses twisted pair, copper loop plant to transmit an asymmetrical digital signal of up to 6 megabits per second ("Mbps") to the telecommunications carrier from the central office and up to 640 kilobits per second ("kbps") from the telecommunications carrier to the central office, as specified in American National Standards Institute ("ANSI") standards and TR 72575, a Verizon-created, technical specifications document. Verizon defines HDSL as a transmission technology that transmits up to 784 kbps over one twisted copper cable pair or up to 1.5 Mbps over two twisted copper cable pairs, as specified in TR 72575.

Verizon proposes two ADSL offerings (two-wire, non-loaded,[5] twisted copper pair loop of less than 12,000 and 18,000 feet) and two HDSL offerings (two- and four-wire non-loaded, twisted copper pair loop of less than 12,000 feet). Verizon makes available longer,

---

[5] "Non-loaded" means the loop is conditioned. See page 12 n.9 for an explanation of loop conditioning.

conditioned loops as part of its "digital design links" ("DDL") tariff offering for integrated services digital network ("ISDN"),[6] ADSL, or HDSL. Lastly, the tariff provides for other link designs, to be handled on a bona fide request basis (set forth in Part A, Section 2). See Part A, Section 5.4.1.A.5. Several CLECs argue that Verizon's proposed definitions are overly restrictive and discriminatory (MA CLEC Alliance Brief at 3-5; Rhythms Brief at 7-10).

b. Positions of Parties

i. Verizon

Verizon argues that its definitions for ADSL and HDSL are consistent with industry standards and the FCC's Line Sharing Order (Verizon Reply Brief at 2-3). According to Verizon, its inclusion of both transmission speeds and loop lengths in its proposed tariff is not arbitrary but, rather, is based on accepted industry standards and technical limitations (id. at 3). During an evidentiary hearing, a Verizon witness stated that while it guarantees the transmission speeds stated in the proposed tariff, a CLEC could always "try higher speeds as long as they stay within the power-spectrum density mass" (Tr. at 36). Lastly, Verizon notes that since all data service providers, including Verizon's data affiliate,[7] would be subject to the

---

[6] ISDN is defined as "A unified end-to-end digital network, in which data originating from all types of communication (e.g., voice, text, data, still and moving pictures) are transmitted from one port (terminal) in the exchange (switch) over one access line to and from the subscriber." 15 C.F.R. § 772

[7] Pursuant to the FCC's approval of the merger of Bell Atlantic Corporation and GTE Corporation, Verizon is required to establish a separate affiliate for the provision of xDSL-based services. Application of GTE Corporation and Bell Atlantic Corporation For Consent to Transfer Control of Domestic and International Sections 214 and 310

(continued...)

same loop engineering standards, there can be no discrimination; therefore, there is no reasonable basis for eliminating these technical specifications from the tariff (Verizon Reply Brief at 3).

ii. CLECs

The MA CLEC Alliance argues that while Verizon's retail xDSL service, Infospeed, permits speeds up to 7.1 Mbps downstream (i.e., to the customer) and 680 kbps upstream (i.e., from the customer), the proposed tariff provides slower transmission speeds for competitors that use the same loop (MA CLEC Alliance Brief at 3, citing Exh. RLI/CVD-1, at 21). In addition, according to the MA CLEC Alliance, Verizon's proposed tariff restricts xDSL offerings to either ADSL or HDSL for certain loop lengths, in violation of FCC rules that prohibit an ILEC from imposing "limitations, restrictions, or requirements on requests for, or the use of, unbundled network elements that would impair the ability of a requesting telecommunications carrier to offer a telecommunications service in the manner the requesting telecommunications carrier intends" (id. at 3-4 n.4, citing 47 C.F.R. § 51.309(a)). Finally, the MA CLEC Alliance opposes Verizon's proposed limitations on the ability of CLECs to use enhanced extended links ("EELs") to provide xDSL services (id. at 3, citing Part B, Section 13.1.1.B).

Rhythms argues that there is no basis for Verizon's arbitrary limitation on the type of xDSL that can be provisioned by CLECs (Rhythms Brief at 7). According to Rhythms, the

---

[7](...continued)
Authorizations and Application to Transfer Control of a Submarine Cable Landing License, FCC 00-221, CC Docket No. 98-184, Memorandum Opinion and Order, at Appendix D (rel. June 16, 2000).

FCC has stated repeatedly that "Section 251(c)(3) does not limit the types of telecommunications services that competitors may provide over unbundled elements to those offered by the [ILEC]" (id., citing Advanced Services Order at ¶ 53).[8] Simply because Verizon chooses to limit its retail xDSL service either to ADSL or HDSL, Rhythms argues, Verizon should not be permitted to limit competitors to those services only (id. at 8).

Rhythms also opposes Verizon's limitations on transmission speeds and loop lengths, arguing that Verizon's technical definitions become a means to "significantly hamper the marketability of its competitors' services" (id., citing Exh. RLI/CVD-1, at 21). Specifically, Rhythms argues that any definition tied to current technology will "impede the introduction of innovative competitive services to Massachusetts' consumers" (id. at 8-9, citing Exh. RLI/CVD-1, at 21). Moreover, Rhythms argues that if a CLEC is able to provide service using its own equipment in conjunction with Verizon's loops over distances greater than those specified by Verizon, it should be permitted to do so (id. at 9).

Rhythms urges the Department to adopt language similar to that approved by the Texas Public Utility Commission ("Texas PUC") for two-wire xDSL loops:

> A 2-wire xDSL loop . . . is a loop that supports the transmission of [xDSL] technologies. The loop is a dedicated transmission facility between a distribution frame, or its equivalent, in [an ILEC's] central office and the network interface device at the customer premise. A copper loop used for such purposes will meet basic electrical standards . . . and will not include load coils or excessive bridged taps [citation omitted]. The loop may contain repeaters at [the CLEC's] option. The loop cannot be "categorized" based on loop length and limitations cannot be placed on the length of xDSL loops. A portion of a

---

[8] Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, First Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 4761 (rel. Mar. 31, 1999) ("Advanced Services Order").

> xDSL loop may be provisioned using fiber optic facilities and necessary electronics to provide service in certain situations.

(Rhythms Brief at 10, citations omitted).

Rhythms asserts that the Texas PUC's xDSL definition promotes innovation and customer choice because it allows CLECs to deploy any xDSL technology permitted by the FCC and the Department (id.). Adoption of this definition, according to Rhythms, will afford Massachusetts consumers with access to the wide variety of xDSL services currently available in other parts of the country (id.).

c. Analysis and Findings

In its Line Sharing Order, the FCC states that ILECs are required to provide "unbundled access to the high frequency portion of the loop to any carrier that seeks to deploy any version of xDSL that is presumed to be acceptable for shared-line deployment in accordance with our rules." Line Sharing Order at ¶ 71 (emphasis added). According to the FCC, an advanced services loop technology is presumed acceptable for deployment if the technology: (1) complies with existing industry standards; (2) is approved by an industry standards body, the FCC, or any state commission; or (3) has been successfully deployed by any carrier without significantly degrading the performance of other services. 47 C.F.R. § 51.230(a).

The FCC has determined that several versions of xDSL currently meet the requirements of Rule § 51.230(a). "xDSL technologies that meet this presumption include ADSL, as well as Rate-Adaptive DSL ["RADSL"] and Multiple Virtual Lines (MVL) transmission systems . . ." Line Sharing Order at ¶ 71. Also in this Order, the FCC noted that ADSL subscribers will

"generally experience downstream data rates from 1.54 to 6.14 Mbps, and upstream data rates from 176 to 640 kbps." Id. at ¶ 64 n.135. In requiring ILECs to condition loops[9] of any length for which CLECs have requested line sharing (unless such conditioning would result in the significant degradation of voice service), the FCC noted that until recently, lines over 18,000 feet were not considered amenable to xDSL transmission. However, commenters in the FCC's Line Sharing Order docket state that these very long length loops are now compatible with certain xDSL transmission technologies and "represent an opportunity for further xDSL product development." Line Sharing Order at ¶ 84.

It is clear to the Department that xDSL technology is evolving at a fast pace. Because line sharing relies on rapidly changing technology, the FCC declined to "limit the availability of line sharing to any particular technology . . . " Line Sharing Order at ¶ 70. We agree with the FCC that expressly permitting any xDSL technology that is "presumed acceptable," in conformance with 47 C.F.R. § 51.230(a), will facilitate the development and deployment of new technologies that use the high frequency spectrum of the local loop to provide consumer services. Id. at ¶ 27. Part A, Section 5.4.1.A of Verizon's proposed tariff is inconsistent with the FCC's rules by narrowly defining "xDSL links" as providing "transmission technology

---

9 According to the FCC, "conditioned" loops are copper loops from which bridged taps, low-pass filters, range extenders, and similar devices have been removed. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, FCC 99-238, at ¶ 172 (rel. Nov. 5, 1999) ("UNE Remand Order"). The FCC notes that ILECs add these devices to the basic copper loop to gain architectural flexibility and improve voice transmission capability. However, it states that such devices diminish the loop's capacity to deliver advanced services, and thus preclude the CLEC from gaining full use of the loop's capabilities. Loop conditioning requires the ILEC to remove these devices, paring down the loop to its basic form. Id.

capable of supporting either [ADSL] or [HDSL]." In conformance with the FCC's Line Sharing Order and its rules, Verizon is directed to modify this section to indicate that a requesting telecommunications carrier may deploy any xDSL-based service that conforms to the FCC's criteria set forth in Rule § 51.230. 47 C.F.R. § 51.230(a); Line Sharing Order at ¶ 70. Verizon should only reference industry-approved and publicly-available definitions for these technologies, such as ANSI T1.413 (which provides the electrical and other characteristics of the ADSL signals appearing at the network interface),[10] and should not require CLECs to rely on Verizon's own internal, proprietary guidelines (see, e.g., Exh. RLI/CVD-60, containing, among other things, Verizon's TR 72575, Issue 2, for which Verizon sought and received protective treatment).[11] This decision will not pose any difficulty to Verizon because Verizon states that its standards "do not vary from industry standards" (Exh. DTE-BA-MA 2-3).

Verizon also has indicated that it guarantees the transmission speeds provided in Part B, Section 5.4.1.A of its tariff (Tr. at 35-36). For the reasons stated below, the Department does not think such guarantees are required or necessary; therefore, Verizon shall remove transmission speeds from its compliance filing. Verizon is required to provide unbundled

---

10 See Line Sharing Order at ¶ 71 n.156.

11 In accordance with this decision, Verizon is directed to modify Part B, Section 19.1.3.C, which states "Line sharing arrangements must comply with TR 72575." Rather, Verizon shall substitute industry-approved documents for the technical specifications for line sharing. The Department agrees with the MA CLEC Alliance that Verizon's reliance upon its own technical manuals could delay the introduction of advances in technology by CLECs in favor of Verizon's own retail offerings (MA CLEC Alliance Brief at 5).

access to the high frequency portion of loops so that CLECs may offer any version of xDSL presumed acceptable for line sharing deployment. Line Sharing Order at ¶ 71. If requested, Verizon is also required to condition a requested loop, regardless of the length, unless such conditioning would result in significant degradation to Verizon's voice service for that customer. Id. at ¶ 84. The FCC does not require Verizon to "guarantee" a particular transmission speed for a particular version of xDSL. As noted by the FCC, "Actual downstream transmission speed decreases . . . in relation to the distance and the number of line impairments between the user and the serving central office." Line Sharing Order at ¶ 64 n.135. CLECs are capable of advising their potential xDSL customers about what transmission speed a particular loop is capable of supporting based upon that loop's characteristics (e.g., length) and the type of equipment selected by the CLEC (see Exh. DTE-BA-MA 2-3).

In addition, the Department directs Verizon to remove loop lengths from this section of the tariff. While today's technology may not permit a CLEC to offer xDSL over a shared line in excess of 18,000 feet, that limitation may soon disappear. Therefore, it is unnecessary to include loop lengths, which may arguably be viewed as limiting Verizon's offering, in this tariff. Finally, it is not necessary for the Department to address the MA CLEC Alliance's concern with Verizon's proposed Part B, Section 13.1.1.B (concerning EELs) in this Order (MA CLEC Alliance Brief at 3-4). This section of Verizon's tariff is outside the scope of Phase III and has already been adequately addressed in D.T.E. 98-57-Phase I at 32-33 (September 7, 2000) ("Phase I Order").

2. Significant Degradation

a. Introduction

In Part B, Section 5.4.3.B, Verizon proposes to reserve the right to "terminate the [CLEC's] link if it creates interference or impairment with other [Verizon] facilities or services." In addition, Verzion's proposed tariff provides that it will "not provide [DDL] if such conditioning is likely to degrade the voice grade service being provided to [Verizon's] end user customer over that same loop." Part B, Section 19.1.2.B.1. Lastly, Part B, Section 19.1.5.D sets forth a process whereby Verizon may remove the CLEC-provided splitter[12] and other advanced services equipment from the end user's loop if the customer encounters "unacceptable transmission" or cannot originate or receive voice-grade calls. Several CLECs argue Verizon's proposed tariff does not comply with FCC rules.

b. Positions of the Parties

i. Verizon

Verizon argues that its proposals affirm its ability to restore promptly a customer's voice-grade service in order to protect the integrity of Verizon's network (Verizon Reply Brief at 3). Verizon indicates that it will work cooperatively with CLECs in trouble-shooting problems, but that ultimately, the Department must decide whether to allow the CLEC or the end-user to direct Verizon to terminate the data service (id. at 4). According to Verizon, it could not meet its service obligations if it were "forced to take direction" from the CLEC, even on the voice portion of the line (id.).

---

[12] See p. 25-26 for the definition of a "splitter."

ii. CLECs

DBC, the MA CLEC Alliance, and Rhythms all express concern about Verizon's proposed "unilateral" authority to terminate a CLEC's data service absent a Department ruling (DBC Brief at 7-14; MA CLEC Alliance Brief at 4-5; Rhythms Brief at 11-13). Specifically, the MA CLEC Alliance argues that federal Rule 51.230(b) provides that an ILEC may not deny a request to deploy line sharing technology unless the ILEC demonstrates to the Department that such deployment will "significantly degrade the performance" of the ILEC's voice service or other advanced services (MA CLEC Alliance Brief at 4, citing 47 C.F.R. § 51.230(b)). According to the MA CLEC Alliance, Verizon's proposed Part B, Section 5.4.3.B is inconsistent with this FCC rule and, thus, must be deleted (id.).

Rhythms cites another FCC rule in support of its position that Verizon's proposed Part B, Section 5.4.3.B is contrary to federal requirements. According to Rhythms, 47 C.F.R. § 51.233 provides that before Verizon may disconnect a CLEC's link, it must notify the CLEC and allow the CLEC a reasonable opportunity to correct the problem (Rhythms Brief at 11, citing 47 C.F.R. § 51.233). In addition, Rhythms contends that this rule directs Verizon to establish before the relevant state commission that a particular technology deployed by the CLEC is causing significant degradation to Verizon's voice service (id.). Rhythms recommends that the Department direct Verizon to demonstrate to the Department that a particular technology is causing interference before Verizon may take any action that would affect a CLEC's provisioning of service over a particular loop (id. at 13).

DBC argues that in several proposed tariff sections, Verizon attempts to usurp Department authority to resolve interference disputes between Verizon and CLECs (DBC Brief

at 7). According to DBC, two sections are at odds with the FCC's rules regarding possible interference: Part B, Sections 19.1.2.B.1 and 19.1.5.D. As mentioned above, Section 19.1.2.B.1 of Verizon's proposal states that Verizon will not condition loops if such conditioning is likely to degrade the voice-grade service being provided to Verizon's end-user. DBC asserts that this provision reserves for Verizon the right to deny line sharing but is silent about the process for determining whether loop conditioning is "likely to degrade" the voice-grade service (id.). Similarly, DBC argues that Verizon's steps for addressing customer-reported trouble on Verizon's voice-grade service (Section 19.1.5.D) permit Verizon to disconnect a CLEC's splitter and terminate the CLEC's data service based on nothing more than an "undocumented, unverified report by a customer of 'trouble' in its voice service" (id. at 8).

According to DBC, the FCC's Line Sharing Order and rules make clear that Verizon has no unilateral right to determine that conditioning a loop will result in interference to its voiceband service (id.). Specifically, where loop conditioning will significantly degrade Verizon's voiceband services, Verizon must migrate its voiceband service to another loop capable of being shared or prove to the Department that (1) the original loop cannot be conditioned without significantly degrading the voiceband service on that loop and (2) no alternative loop is available (id. at 9, citing 47 C.F.R. § 51.319(h)(5)(ii)).

DBC contends that Verizon's proposal to resolve unilaterally alleged voiceband service troubles is also contrary to FCC rules (id. at 10). According to DBC, the applicable FCC rule establishes the following process: if Verizon asserts that its voiceband service on a line-shared loop is experiencing significant degradation, it must give the CLEC notice; allow the CLEC to

conduct testing; provide information necessary to correct the problem; and allow the CLEC an opportunity to correct the problem. If the CLEC's efforts are unsuccessful, Verizon must then prove to the Department that the technology used by the CLEC is causing this degradation. Only after the Department agrees with Verizon about the cause of this interference is the CLEC required to discontinue deployment of interfering technology and migrate to an alternative technology (id. at 10-11, citing 47 C.F.R. § 51.233(d) and Line Sharing Order at ¶ 208). DBC urges the Department to require Verizon to amend its tariff to incorporate the FCC's mandatory processes (id. at 13).

c. Analysis and Findings

The FCC's rules detailing the process ILECs must follow to restore service if and when their voiceband customers experience "significant degradation" of their voice-grade services are clear. Rule § 51.233 requires Verizon to notify the carrier deploying the advanced service (i.e., the CLEC) of the problem and allow the CLEC a "reasonable opportunity" to correct the problem. 47 C.F.R. § 51.233(a). If the problem remains after this opportunity, Verizon "must establish before the [Department] that a particular technology deployment is causing the significant degradation." 47 C.F.R. § 51.233(b). Moreover, Verizon's claims of network harm must be supported with specific and verifiable information. 47 C.F.R. § 51.233(c). Should the Department agree with Verizon's documented assertion of network harm, the CLEC shall discontinue deployment of that technology and migrate its customers to technologies that will not significantly degrade the performance of other such services. 47 C.F.R. § 51.233(d).

Similarly, the FCC's rules require Verizon to condition any requested loop unless such conditioning will significantly degrade, as defined in § 51.233, the voiceband services Verizon is currently providing over that loop, in which case, Verizon must either (1) locate another loop that can be conditioned, migrate the voiceband service to that loop, and provide the CLEC with access to the high frequency portion of that loop; or (2) demonstrate to the Department that the original loop cannot be conditioned without significantly degrading voiceband services on that loop, and that there is no alternative loop available that can be conditioned or to which the customer's voiceband service can be moved. 47 C.F.R. § 51.319(h)(5).

Verizon's proposed tariff provisions Part B, Sections 5.4.3.B, 19.1.2.B.1, and 19.1.5.D do not comply with the FCC's rules and, therefore, must be modified. Verizon does not have the unilateral right to terminate a CLEC's xDSL service absent a Department ruling. Even with a Department ruling, it is clear from the FCC's rules that the Department, not Verizon, would direct the CLEC to discontinue the service creating the degradation. Simply put, the FCC's rules do not contemplate an ILEC's unilateral termination of a CLEC's data service. Indeed, the FCC states that it is "concerned that some [ILECs] may plan to take unilateral action against allegedly interfering [CLEC] data services, rather than comply with the processes" set forth in the Advanced Services Order. Line Sharing Order at ¶ 207. The FCC continues, "We emphasize, therefore, that [ILECs] are required to follow these procedures." Id.

During an evidentiary hearing, counsel for Verizon indicated that in several jurisdictions, Verizon and a few CLECs agreed to language similar to that proposed in its

tariff, presumably amending their interconnection agreements, at least with respect to the issue of loop conditioning and significant degradation (Tr. at 13-14). Irrespective of whether certain parties reached an agreement and amended their interconnection agreements accordingly, the Department will not allow tariffed language that contradicts FCC rules to go into effect. Therefore, the Department directs Verizon to file tariff language incorporating the process set forth in the FCC rules mentioned above.

The FCC's rules are categorical and afford little flexibility. The burden they place on a state regulator to settle in a regulatory forum, with its associated delays, commercial disputes that call for dispatch in resolution, may prove quite onerous. In practice, the Department will have to dispose of such disputes with a speed consistent with the demands of the market.

B. Operations Support Systems Issues

1. Introduction

In order to provide access to the high frequency portion of the loop, ILECs, such as Verizon, must make modifications to their OSS. As the FCC summarized in its Line Sharing Order, ILECs maintain a variety of computer databases and "back-office" systems that enable ILEC employees to process customer orders more efficiently, provide the requested services to their customers, maintain and repair network facilities, and render bills. To provide these services efficiently to their customers, CLECs must have access to these databases and systems. Line Sharing Order at ¶ 93 n.213.

On or around August 1, 2000, Verizon and Telcordia Technologies ("Telcordia") contracted to upgrade Verizon's OSS so that line sharing orders may electronically flow through Verizon's systems and not drop out for manual processing (see Tr. at 486). Several

CLECs argue that the Department should direct Verizon to make these OSS enhancements available in Massachusetts by a date certain (generally March 1, 2001). Verizon asserts there is no need for Department action with respect to OSS.

2. Positions of the Parties

a. Verizon

According to Verizon, there is no reason for the Department to mandate any specific schedule for the necessary OSS enhancements, which are "targeted for completion, on a staggered basis, beginning March 2001" in Pennsylvania (Verizon Brief at 32). Verizon argues that the FCC acknowledged in its Line Sharing Order that ILECs would not be able to modify fully the OSS in time for the scheduled roll-out of line sharing (id., citing Line Sharing Order at ¶¶ 126-130). Verizon states that the final acceptance of Telcordia's software is scheduled to occur on February 15, 2001, after which Verizon will begin deployment throughout its footprint (id. at 33).

A Verizon witness indicated that its OSS upgrades must be implemented on a region-by-region basis across its five regions (id., citing Tr. at 479). Because Verizon is mandated to modify its OSS in Pennsylvania by March 1, 2001, that region will receive the OSS enhancements first (id.). New York, located in a different Verizon region, has also requested this March 1 date (id.). Verizon argues that these upgrades require substantial work activities and that each region must be converted separately; thus, the only viable solution is to implement the updates on a staggered, monthly basis (id. at 33-34). Verizon indicates its willingness to work collaboratively with CLECs to develop a priority schedule for rolling out

these OSS enhancements (id. at 33). Specifically, Verizon is willing to work with CLECs to rank the regions based on order of preference for this OSS roll-out (id. at 34).

b. Attorney General and CLECs

The Attorney General, ASCENT, DBC, and Rhythms oppose Verizon's suggestion not to mandate a date certain for implementation of the OSS upgrades in Massachusetts. The Attorney General requests that the Department order Verizon to implement the line sharing OSS enhancements no later than April 1, 2001, to "ensure that Massachusetts will be next in line after Pennsylvania" to receive these upgrades (Attorney General Brief at 11). The Attorney General argues that if the Department does not mandate this due date, if not an earlier one, "Massachusetts consumers will experience increased delays because their orders will be processed manually, rather than mechanically" (id.). ASCENT also supports this April 1, 2001, deadline and notes the importance of establishing a due date as a target (ASCENT Reply Brief at 11). According to ASCENT, if Verizon is unable to meet this deadline for a good reason, then it can so explain to the Department (id.). However, ASCENT argues, if the Department fails to set a deadline and Verizon unduly delays its OSS upgrades, restrictions on the roll-out of advanced services in Massachusetts may result (id.).

Rhythms argues that Verizon has provided, at most, only unsupported claims that it could not implement the OSS enhancements at the same time Verizon provides them in Pennsylvania (Rhythms Brief at 35). Rhythms suggests that Verizon is telling the Department that the Department is unable to direct Verizon as to when the OSS upgrades will be made in Massachusetts, resulting in Massachusetts being treated as "second-class" behind other states (Rhythms Reply Brief at 24). DBC urges the Department to direct Verizon to make its Loop

Facility Assignment and Control System ("LFACS") database[13] available immediately to CLECs and notes that the FCC found no technical reason why ILECs could not resolve operational issues, including OSS modifications, to provide unbundled access to the high frequency portion of the loop by June 6, 2000 (DBC Brief at 40, citing Line Sharing Order at ¶ 130).

3. Analysis and Findings

The Department directs Verizon to implement the necessary OSS enhancements in Massachusetts no later than April 1, 2001, or if Pennsylvania's implementation date slips from March 1, 2001, no later than one month after implementation in Pennsylvania. Verizon's OSS expert testified that this date is feasible for Massachusetts (Tr. at 484-485). While Verizon argues that it is unable to roll-out the OSS upgrades throughout its footprint in the compressed period of time advocated by several CLECs, and that pressuring Verizon to do so will only result in system errors, it appears this inability is largely or entirely due to Verizon's current personnel constraints (Tr. at 479-481). According to Verizon's witness, it uses the same work group to perform the software installation region-by-region (Tr. at 481). Verizon has not explained why it could not use other Verizon software personnel to perform this installation in Massachusetts.

---

[13] According to Verizon, LFACS inventories and assigns all loop facilities from the serving terminal to the main distribution frame in the central office (Exh. VZ-MA-2, 18). Verizon states that LFACS may contain information regarding the presence or absence of load coils, bridged taps, the length and gauges of the copper cables, and whether the loop is on digital loop carrier (id. at 19).

Verizon was put on notice last December, when the FCC's Line Sharing Order was released, that certain OSS modifications would have to be made to permit unbundled access to the high frequency portion of the loop. In that Order, the FCC stated that ILEC arguments that OSS issues will take at least twelve months to resolve to provide unbundled access to the high frequency portion of the loop are "significantly overstated" and that its record shows that ILECs should be able to implement necessary system changes within 180 days from release of the Order. Line Sharing Order at ¶¶ 96, 130.

The Department does not fault Verizon for not having these upgrades in place today. We recognize that the underlying technical issues are difficult ones,[14] requiring necessary input from CLECs, which has occurred through the regional OSS collaborative overseen by the New York Public Service Commission ("NYPSC"), and Verizon's vendor.[15] This consultation has been time-consuming but appears to have been productive. If Verizon adheres to the milestones it set to implement Telcordia's software releases (see Exh. DTE-BA-MA 1-15) an April 1, 2001 roll-out in Massachusetts should be feasible according to Verizon's witness, particularly since it will have made these upgrades already in Pennsylvania (and, possibly, New York). If, however, Pennsylvania's implementation date slips from March 1, 2001, we

---

14 For example, Verizon's witness testified that the eleven OSS enhancements that Telcordia will perform involve 25 million lines of code (Tr. at 86-87).

15 Another Verizon witness testified that Verizon began negotiations with Telcordia last February, identifying the work that had to be completed. Also this witness stated that Telcordia began to perform system changes absent a signed contract with Verizon (Tr. at 92-93).

will likewise give Verizon a corresponding addition of one month to implement the OSS upgrades in Massachusetts.

We decline the suggestion of some CLECs to direct Verizon to make these enhancements available in Massachusetts by March 1, 2001. We are persuaded by Verizon's witness that the March 1 deadline provides Verizon with approximately one month less than it normally requires to test the software in its production environment (Tr. at 479-480). The Department has concerns about requiring Verizon to "cut" this software live, as opposed to testing it for one month (Tr. at 480). The Department finds that CLECs operating in Massachusetts will be well-served by allowing Verizon to test the OSS enhancements, either in a production environment or through actual experience in other Verizon regions, for one and a half months (i.e., from February 15 to April 1, 2000) in order to catch and remedy any software glitches.

In the regional OSS collaborative, Verizon and CLECs continue to discuss access to loop information, one option of which is direct access to LFACS (Exh. DTE-BA-MA 2-18; Tr. 495-496). Because the decision on which option to obtain more information about loop and terminal makeup and system type is squarely before CLECs, we find it would be counter-productive to make that decision for the CLECs, which is what DBC urges us to do (DBC Brief at 40). Therefore, we decline DBC's request to direct Verizon to make LFACS available immediately to CLECs.